

cuous, which, by putting on a less *aperture*, may be found to vanish; and therefore, both for the discovery of the fixt Star, and for finding the *Satellites* of *Jupiter*, before it be out of the day, or twilight, I alwayes leave the Object-glass as clear without any *aperture* as I can, and have thereby been able to discover the *Satellites* a long while before; I was able to discern them, when the smaller *apertures* were put on; and at other times, to see multitudes of other smaller Stars, which a smaller *aperture* makes to disappear.

In that notable *Asterism* also of the Sword of *Orion*, where the ingenious Monsieur *Hugens van Zulichem* has discovered only three little Stars in a cluster, I have with a thirty six foot Glass, without any *aperture* (the breadth of the Glass being about some three inches and a half) discover'd five, and the twinkling of divers others up and down in divers parts of that small milky Cloud.

So that 'tis not unlikely, but that the meliorating of *Telescopes* will afford as great a variety of new Discoveries in the Heavens, as better *Microscopes* would among small terrestrial Bodies, and both would give us infinite cause, more and more to admire the omnipotence of the Creator.

Observ. LX. Of the Moon.

HAVING a pretty large corner of the Plate for the seven Starrs, void, for the filling it up, I have added one small *specimen* of the appearance of the parts of the Moon, by describing a small spot of it, which, though taken notice of, both by the Excellent *Hevelius*, and called *Mons Olympus* (though I think somewhat improperly, being rather a vale) and represented by the Figure X, of the 38. *Scheme*, and also by the Learn'd *Ricciolus*, who calls it *Hipparchus*, and describes it by the Figure Y, yet how far short both of them come of the truth, may be somewhat perceiv'd by the draught, which I have here added of it, in the Figure Z, (which I drew by a thirty foot Glass, in October 1664. just before the Moon was half inlightned) but much better by the Reader's diligently observing it himself, at a convenient time, with a Glass of that length, and much better yet with one of threescore foot long; for through these it appears a very spacious Vale, encompassed with a ridge of Hills, not very high in comparison of many other in the Moon, nor yet very steep. The Vale it self A B C D, is much of the figure of a Pear, and from several appearances of it, seems to be some very fruitful place, that is, to have its surface all covered over with some kinds of vegetable substances; for in all positions of the light on it, it seems to give a much fainter reflection than the more barren tops of the encompassing Hills, and those a much fainter than divers other cragg'd, chalky, or rocky Mountains of the Moon. So that I am not unapt to think, that the Vale may have

Vegetables

Vegetables *analogus* to our Grass, Shrubs, and Trees; encompassing Hills may be covered with so thin a vegetable, that we may observe the Hills with us to be, such as the short Shrub covers the Hills of *Salisbury* Plains.

Up and down in several parts of this place here described are multitudes in other places all over the surface of the Moon, to be perceived several kinds of pits, which are shap'd some bigger, some less, some shallower, some deeper, some to be a hollow *Hemisphere*, encompassed with a round rim, the substance in the middle had been digg'd up, and the middle, proportionably lower; divers places resembling these, I have observ'd here in *England*, on the tops of hills, which might have been caus'd by some Earthquake in the younger world. But that which does most incline me to this belief, is the generality and diversity of the Magnitude of these pits, and the variety of the Moon. Next, the two experimental wayes, made a representation of them.

The first was with a very soft and well temper'd mixture of pipe clay and Water, into which, if I let fall any heavy body, it would throw up the mixture round the place, where it fell, and would make a representation, not unlike these of the Moon, considering the state and condition of the Moon, there seems to be a probability to imagine, that it should proceed from any cause, for it would be difficult to imagine whence those bodies should come, and next, how the substance of the Moon should be so easily broken, and a Bubble be blown under the surface of it, and suffer'd to burst, or if a Bullet, or other body, sunk in it, be pull'd out, the parts of the parting bodies leave an impression on the surface of the Moon, like these of the Moon, save that these also quickly fill up. But the second, and most notable, representation was, in a pot of boyling Alabaster, for there that powder being on of vapours reduc'd to a kind of fluid consistence, if you be gently remov'd besides the fire, the Alabaster presently being boyl'd, the whole surface, especially that where some of the pits have risen, will appear all over covered with small pits, like these of the Moon, and by holding a lighted Candle over the Room, in divers positions to this surface, you may exactly observe the *Phænomena* of these pits in the Moon, according as they are less inlightned by the Sun.

And that there may have been in the Moon some cause for this, which may have made these pits, will seem the more probable, if we suppose it like our Earth, for the Earthquakes may proceed from some such cause, as the boyling of

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